Title (en)

HEAT PUMP AIR-CONDITIONING SYSTEM AND ELECTRIC VEHICLE

Title (de)

WÄRMEPUMPENKLIMATISIERUNGSSYSTEM FÜR ELEKTROFAHRZEUG

Title (fr)

SYSTÈME DE CLIMATISATION À POMPE À CHALEUR ET VÉHICULE ÉLECTRIQUE

Publication

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Application

EP 17795474 A 20170503

Priority

- CN 201610308000 A 20160510
- CN 2017082947 W 20170503

Abstract (en)

This disclosure discloses a heat pump air-conditioning system and an electric vehicle. The system includes a Heating Ventilation and Air Conditioning (HVAC) assembly, a compressor, an outdoor heat exchanger, and a first plate heat exchanger, where the HVAC assembly includes an indoor condenser, an indoor evaporator, and an damper mechanism, the compressor is in communication with the indoor condenser, the indoor condenser is in communication with the outdoor heat exchanger, the outdoor heat exchanger is in communication with the indoor evaporator, the indoor evaporator is in communication with a low-pressure air inlet of the compressor, the indoor condenser is further in communication with the outdoor heat exchanger through a first enthalpy-increased branch, the outdoor heat exchanger is further in communication with a moderate-pressure air inlet of the compressor through a second enthalpy-increased branch, the first enthalpy-increased branch and the second enthalpy-increased branch exchange heat by using the first plate heat exchanger, the second enthalpy-increased branch is provided with a first expansion valve, and the outdoor heat exchanger is in communication with the first plate heat exchanger through the first expansion valve. Therefore, effects, such as improving heating energy efficiency and satisfying regulatory requirements for defrosting and defogging, can be achieved, and low-temperature heating performance of the system can be significantly improved by using the enthalpy-increased branch.

IPC 8 full level

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